Quality Control

<b>Work Orde</b> <i>April-22-13 1:4.</i>		JU523	mathews .	*1()(	1523*						Page 1
Item ID: Revision ID: Item Name:	D2327-3 Spacer Bushi	ing		Accept	*N900	<b>040</b>	100	)* s	etup Star Stop	I W	S1* S2*
	4/22/13	Start Qty: 40.00 Req'd Qty: 40.00	*4( *4(		Cust Item I Customer:	D:		•			
Approvals:	Process Pl	lan: MLゴ	Date: 13-04-	-25 Tooling:	Da	ate:		R	tun Star Stoj	, "I <b>V</b> I	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:				*N	R2*
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan . Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Re	evision Nbr								***************************************	
D2327	Re	ev D									
*100  *100*  Hardinge  Hardinge CNC Lath	e Small	Hardirige CNC LATHE  Memo  Turn per Fo		0.00 0.00 2327 Deburr	, 3 - E- S			41	4		DAS 13 289
				3.4	122-0			٨,			
110		QC2- Inspect parts off	machine FAI/FAIB	0.00							€ DAn
*110* QC Quality Control		Memo		0.00	13-5-8	•		41	Ψ		73
				; •							
120 *120*		QC8- Inspect parts - sec	cond check	0.00				Щ			JB-5-
QC	•	Memo		0.00				<u></u>			

											DQA:	Dat	te:	
NCR:	Yes	/ No	1			WORK ORDER NON-C	10:	VFOR	MANCE / UP	DATE				
<del>,</del>									-	· · · · · · · · · · · · · · · · · · ·	QA Closed:	Dat	te:	
Work Ord	er.		; !			DISPOSITION				PARTMENT	PROCESS			
Part No.  NCR No.				Rework Scrap Use-as-is Work Order Update	Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite			Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier			Engineering Quality Other			
Root		-			Descri	ption of work order update	Į.	nitial	ł .	tion	Sign &			
Cause	$\Box$	Date	Step	Qty	C	or Non-conformance	Ch	ief Eng	Desc	ription	Date	Verification	n	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved								- **						
							AUL	T CATE	GORY	·		*		
Landi	$\overline{}$	iear Bending				<b>General</b> Bend		Grain <b></b>	•		Ovalized		Pi	ressure/Forced
	${f m eta}$	Centre No Cracks	ot Conce	ntric to	o/s 	BOM/Route Broken/Damaged		Hardwa Inspect	ire ion Incomplete	-	Over/Under Part Incorred		_	emperature/Cure /eld
		Crushed/0	Crimped			Burrs		Instruct	ions Incomplete/	Unclear	Part Lost/Mi	ssing	۱	rong Stock Pulled
	Ш	Cuffs				Contamination	1	Mainte			Part Moved			
	-	Heat Trea				Countersink		Mislabe			Positioned V			
		Inspection	•	Tube		Cut Too Short	L.	Misread	t		Power Loss/	Surge	0	ther
		Ripples in				Drill Holes		Offset						
ļ		Torque W	aves in E	Extrusio	n	Drawing		Out of 0	Calibration					

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

Folio 1

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

QC

Quality Control

Work Order ID 100523 Page 2 April-22-13 1:43:49 PM \*N900040100\* Setup Start Item ID: D2327-3 **Revision ID:** Stop Spacer Bushing Item Name: \*40\* **Start Qty: 40.00 Start Date:** 4/22/13 **Cust Item ID:** Required Date: 5/03/13 Req'd Qty: 40.00 **Customer:** Reference: Run Date: **Tooling:** Date: Approvals: Stop SPC (Y/N): Date: Date: **Tool ID** Reject Tool # Plan Accept Reject Sequence ID/ Operation Set Up/ Number Stamp Qty Qty **Description** Code **Work Center ID** Run Hours Identify as per dwg & Stock Location 130 \*130\* 0.00 Packaging Memo \*\*\*\*\*STOCK IN BASKET CELL\*\*\*\*\* Packaging OC21- Final Inspection - Work Order Release 0.00 140 \*140\*

0.00

Memo

DQA: Date: \_\_\_\_ **WORK ORDER NON-CONFORMANCE / UPDATE** Yes / No NCR: QA Closed: Date: **AGAINST DEPARTMENT/PROCESS** DISPOSITION Work Order: Engineering Rework Skid-tube Crosstube Water Jet Part No. Prod. Eng. Coor. Quality Machining Small Fab Scrap Thermoforming Rec/Store/Packaging Other Use-as-is Finishing NCR No. Work Order Update Composite Supplier Large Fab Description of work order update Sign & Initial Action Root Chief Eng Qty Date Verification QC Inspector Date Step or Non-conformance Description Cause Doc/Data Equip/Tooling Operator Material Setup Other **Process** Supplier Training Unapproved **FAULT CATEGORY Landing Gear** General Bending Bend Grain Ovalized Pressure/Forced Centre Not Concentric to O/S BOM/Route Over/Under tolerance Temperature/Cure Hardware Broken/Damaged Cracks · Inspection Incomplete Part Incorrect Weld Wrong Stock Pulled Crushed/Crimped Burrs Instructions Incomplete/Unclear Part Lost/Missing Cuffs Contamination Maintenance Part Moved

Mislabeled

Out of Calibration

**Out of Sequence** 

**Outside Dimensions** 

Misread

Offset

Positioned Wrong

Power Loss/Surge

Other

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Heat Treat

Inspection Strip in Tube

**Torque Waves in Extrusion** 

Countersink

Cut Too Short

**Drill Holes** 

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

**Picklist Print** 

April-22-13 1:43:48 PM

Work Order ID: 100523

Parent Item:

D2327-3

Parent Item Name:

Spacer Bushing

Comments:

IPP F05.11.02Removed 303 SSKJ/EC

**Start Date:** 4/22/13

Required Date: 5/03/13

Page 1

**Start Qty: 40.00** 

Required Qty: 40.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
M304R0.375	/	Purchased	No	, , , , , , , , , , , , , , , , , , ,		100	f	28.0330	0.1563	6.581052	-	, ?	-25	-
304 ROUND BAR 0.3/15	<b>D</b> A	10										/_3	, -0 - 8	
F	1 12	M.		Location		Loc Oty	L	oc Code						_

364 R.B. 4375

Location	Loc Qty	Loc Code	
MAT029	28.033		
119346	2.328		
120204	5.442		
121380	3.846	*	
123294	16.417		

122682

6.5 ft

•			1								DQA:	Da1	te: _	
NCR: Y	⁄es	/ No	1 1 .			WORK ORDER NON-C	O	NFORN	AANCE / UPI	DATE	QA Closed:	Dat	te:	
			· · · · · · · · · · · · · · · · · · ·			DISPOSITION				AGAINST DE	DEPARTMENT/PROCESS			
Part No.  NCR No.		Rework Scrap Use-as-is Work Order Update		Skid-tube Crosstube  Machining Small Fab  Thermoforming Finishing  Large Fab Composite		Small Fab	Prod. Eng. Coor Rec/Store/Packaging			Engineering Quality Other				
Root				I	Descri	ption of work order update		nitial	Act	ion	Sign &	<u> </u>	1	
Cause	ļ	Date	Step	Qty	1	or Non-conformance		ief Eng		ription	Date	Verification	ı	QC Inspector
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved														
. 1:		-			· · · · · · · · · · · · · · · · · · ·	<del></del>	AUL	T CATE	JORY					
Landi		Bending Centre No Cracks Crushed/ Cuffs Heat Trea	Crimped at		o/s	General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink Cut Too Short		1	on Incomplete ions Incomplete/U nance led	Jnclear	Ovalized Over/Under Part Incorre Part Lost/M Part Moved Positioned V	ct issing Vrong		Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled Other
	Ripples in Bend					Drill Holes		Offset				•		

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

DART AEROSPACE LTD	Work Order:	100523
Description: Spacer Bushing	Part Number:	D2327-3
		1
Inspection Dwg: D2327 Rev: D		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

х	First Article		Prototype
		L	ototypo

				_					
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments			
Ø0.375	+/-0.010	378							
Ø0.257	+0.005/-0.000	-257	//	, ,	, C	<del>-</del>			
1.750	+/-0.010	11.747							
		:				<del></del>			
4 3 7 3 33 34 3					- April				
					76				
						, , ,			
3.4		ř.				*			
		.1			(1 ) (4 )	. , , , , , , , , , , , , , , , , , , ,			
			,						
1. 7. 3		į		· · · · ·	343				
		3			:				
A A'									
		Te (							
		¥		,	· · · · · · · · · · · · · · · · · · ·				

CAC			
Measured by: 13	Audited by:	Prototype Approval:	N/A
Date: 13-5-8	Date: 13-5-7	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	04.01.13	New Issue	KJ/RF	
В.	06.11.24	Dwg Revision revised	KJ/JLM	
C	08.01.28	Tolerance revised on Ø0.375	KJ/EC/DD	13/



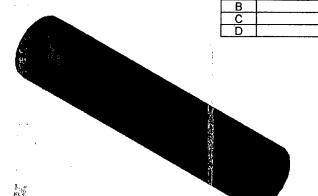
nykir La

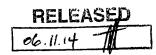
DESIGN BW	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA				
CHECKED	APPROVED	D2327	REV. D SHEET 1 OF 1			
DATE <b>06</b>	.10.12	TITLE SPACER BUSHING	SCALE 2:1			

**NEW ISSUE** 

LENGTH CHANGE

303 SS SPEC ADDED REMOVE 303 SS MATERIAL





DESCRIPTION

	2.000
	:
ŀ	

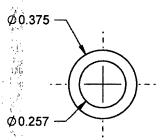
REV

Α

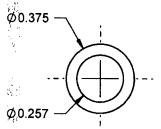
DATE

94.12.17 95.12.06

03.05.13 06.10.12



## **D2327-1 SPACER BUSHING**



## **D2327-3 SPACER BUSHING**

- 1) MATERIAL: AISI 304/316 SS, Ø0.375, 0.065 WALL SEAMLESS ROUND TUBING (REF. DART, SPEC M304TR0.375W.065)
- 2) FINISH: NONE
  3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
  4) ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
- 5) BREAK ALL SHARP CORNERS TO 0.010 MAX

**COPYRIGHT © 1994 BY DART AEROSPACE LTD** 

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

UNCONTROLL SUBJECT TO / JUST T. M. L. L.